

CLAIMS:

1. A stent comprising:

a plurality of serpentine circumferential bands, each serpentine circumferential band having a proximal end portion, a distal end portion, a plurality of proximal turns at said proximal end portion and a plurality of distal turns at said distal end portion; and

a plurality of connector columns, each connector column located between two adjacent serpentine circumferential bands, each connector column comprising a plurality of connector struts, each connector strut coupled at a first end to a serpentine circumferential band and coupled at a second end to another serpentine circumferential band;

wherein the number of proximal turns in a serpentine circumferential band is a multiple of 3, and wherein the number of connector struts in a connector column is a multiple of 2, and wherein the number of connector struts in a connector column is less than the number of proximal turns in an adjacent serpentine circumferential band.

2. The stent as recited in claim 1, wherein the proximal turns of adjacent serpentine circumferential bands are longitudinally offset from one another.

3. The stent as recited in claim 2, wherein adjacent serpentine circumferential bands reverse orientation with respect to each other.

4. The stent as recited in claim 1, wherein the connector struts of adjacent connector columns are angularly aligned with one another.

5. The stent as recited in claim 1, wherein the connector struts of adjacent connector columns are longitudinally offset from one another.

6. The stent as recited in claim 1, wherein the number of distal turns in a serpentine circumferential band is a multiple of 3.

7. The stent as recited in claim 1, further comprising a first type of connector strut and a second type of connector strut.

8. The stent as recited in claim 7, wherein the second type of connector strut spans a greater circumferential distance than the first type of connector strut.

9. The stent as recited in claim 7, wherein the first type of connector strut provides the stent with greater axial strength than the second type of connector strut.

10. The stent as recited in claim 7, wherein each serpentine circumferential band proximal turn comprises an upper portion and a lower portion; and wherein each serpentine circumferential band distal turn comprises an upper portion and a lower portion;

wherein the first type of connector strut is coupled at the first end to a distal turn upper portion of one serpentine circumferential band, and coupled at the second end to a proximal turn lower portion of another serpentine circumferential band.

11. The stent as recited in claim 10, wherein the second type of connector strut is coupled at the first end to a distal turn upper portion of one serpentine circumferential band, and coupled at the second end to a proximal turn lower portion of another  
5 serpentine circumferential band.

12. The stent as recited in claim 10, wherein the second type of connector strut is coupled at the first end to a distal turn lower portion of one serpentine circumferential band, and coupled at the second end to a proximal turn upper portion of another  
10 serpentine circumferential band.

13. The stent as recited in claim 7, wherein each serpentine circumferential band proximal turn comprises an upper portion and a lower portion; and wherein each serpentine circumferential band distal turn comprises an upper portion and a lower  
15 portion;

wherein the first type of connector strut is coupled at the first end to a distal turn lower portion of one serpentine circumferential band, and coupled at the second end to a proximal turn upper portion of another serpentine circumferential band.

14. The stent as recited in claim 13, wherein the second type of connector strut is coupled at the first end to a distal turn lower portion of one serpentine circumferential band, and coupled at the second end to a proximal turn upper portion of another  
20 serpentine circumferential band.

15. The stent as recited in claim 7, wherein each serpentine circumferential band proximal turn comprises an upper portion and a lower portion; and wherein each serpentine circumferential band distal turn comprises an upper portion and a lower  
25 portion;

wherein the first type of connector strut is coupled at the first end to a distal turn upper portion of one serpentine circumferential band, and coupled at the second end to a proximal turn upper portion of another serpentine circumferential band.  
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16. The stent as recited in claim 7, wherein each serpentine circumferential band proximal turn comprises an upper portion and a lower portion; and wherein each serpentine circumferential band distal turn comprises an upper portion and a lower  
35 portion;

wherein the first type of connector strut is coupled at the first end to a distal turn lower portion of one serpentine circumferential band, and coupled at the second end to a proximal turn lower portion of another serpentine circumferential band.  
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17. A stent comprising:

a plurality of serpentine circumferential bands, each serpentine circumferential band having a proximal end portion, a distal end portion, a plurality of proximal turns at said proximal end portion and a plurality of distal turns at said distal end portion; and  
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a plurality of connector columns, each connector column located between two adjacent serpentine circumferential bands, each connector column comprising a plurality

of connector struts including at least one first type of connector strut and at least one second type of connector strut, each connector strut coupled at a first end to a serpentine circumferential band and coupled at a second end to another serpentine circumferential band;

5            wherein the number of proximal turns in a serpentine circumferential band is a multiple of 3, and wherein the number of connector struts in a connector column is a multiple of 2.

10        18. The stent as recited in claim 17, wherein the proximal turns of adjacent serpentine circumferential bands are longitudinally offset from one another.

19. The stent as recited in claim 18, wherein adjacent serpentine circumferential bands reverse orientation with respect to one another.

15        20. The stent as recited in claim 17, wherein the first type of connector struts of adjacent connector columns are angularly aligned.

21. The stent as recited in claim 17, wherein the connector struts of adjacent connector columns are longitudinally offset from one another.

20        22. The stent as recited in claim 17, wherein a first type of connector strut is angularly aligned with the second type of connector strut of an adjacent connector column.

25        23. The stent as recited in claim 17, wherein the number of distal turns in a serpentine circumferential band is a multiple of 3.

24. The stent as recited in claim 17, wherein the second type of connector strut spans a greater circumferential distance than the first type of connector strut.

30        25. The stent as recited in claim 17, wherein the first type of connector strut provides the stent with greater axial strength than the second type of connector strut.

35        26. The stent as recited in claim 17, wherein each serpentine circumferential band proximal turn comprises an upper portion and a lower portion; and wherein each serpentine circumferential band distal turn comprises an upper portion and a lower portion;

          wherein the first type of connector strut is coupled at the first end to a distal turn upper portion of one serpentine circumferential band, and coupled at the second end to a proximal turn lower portion of another serpentine circumferential band.

40        27. The stent as recited in claim 26, wherein the second type of connector strut is coupled at the first end to a distal turn upper portion of one serpentine circumferential band, and coupled at the second end to a proximal turn lower portion of another serpentine circumferential band.

45        28. The stent as recited in claim 26, wherein the second type of connector strut is coupled at the first end to a distal turn lower portion of one serpentine circumferential

band, and coupled at the second end to a proximal turn upper portion of another serpentine circumferential band.

29. The stent as recited in claim 17, wherein each serpentine circumferential band proximal turn comprises an upper portion and a lower portion; and wherein each serpentine circumferential band distal turn comprises an upper portion and a lower portion;

wherein the first type of connector strut is coupled at the first end to a distal turn lower portion of one serpentine circumferential band, and coupled at the second end to a proximal turn upper portion of another serpentine circumferential band.

30. The stent as recited in claim 29, wherein the second type of connector strut is coupled at the first end to a distal turn lower portion of one serpentine circumferential band, and coupled at the second end to a proximal turn upper portion of another serpentine circumferential band.

31. The stent as recited in claim 17, wherein each serpentine circumferential band proximal turn comprises an upper portion and a lower portion; and wherein each serpentine circumferential band distal turn comprises an upper portion and a lower portion;

wherein the first type of connector strut is coupled at the first end to a distal turn upper portion of one serpentine circumferential band, and coupled at the second end to a proximal turn upper portion of another serpentine circumferential band.

32. The stent as recited in claim 17, wherein each serpentine circumferential band proximal turn comprises an upper portion and a lower portion; and wherein each serpentine circumferential band distal turn comprises an upper portion and a lower portion;

wherein the first type of connector strut is coupled at the first end to a distal turn lower portion of one serpentine circumferential band, and coupled at the second end to a proximal turn lower portion of another serpentine circumferential band.

33. The stent as recited in claim 17, wherein the number of connector struts in a connector column is less than the number of proximal turns in an adjacent serpentine circumferential band.

34. A stent comprising:

a plurality of serpentine circumferential bands, each serpentine circumferential band having a proximal end portion, a distal end portion, a plurality of proximal turns at said proximal end portion and a plurality of distal turns at said distal end portion; and

a plurality of connector columns, each connector column located between two adjacent serpentine circumferential bands, each connector column comprising a plurality of connector struts including at least one first type of connector strut, at least one second type of connector strut and at least one third type of connector strut, each connector strut coupled at a first end to a serpentine circumferential band and coupled at a second end to another serpentine circumferential band.

35. The stent as recited in claim 34, further comprising a fourth type of connector strut.
36. The stent as recited in claim 34, wherein the number of proximal turns in a  
5 serpentine circumferential band is a multiple of 3.
37. The stent as recited in claim 36, wherein the number of connector struts in a connector column is a multiple of 2
- 10 38. A stent having a proximal end and a distal end, the stent comprising:  
a plurality of serpentine circumferential bands, each serpentine circumferential band having a proximal end portion and a distal end portion;  
15 said serpentine circumferential band proximal end portion having a plurality of first proximal turns and a plurality of second proximal turns, wherein said first proximal turns extend farther toward the stent proximal end than said second proximal turns;  
20 said serpentine circumferential band distal end portion having a plurality of first distal turns and a plurality of second distal turns, wherein said first distal turns extend farther toward the stent distal end than said second distal turns; and  
a plurality of connector columns, each connector column located between two  
25 adjacent serpentine circumferential bands, each connector column comprising a plurality of connector struts including at least one first type of connector strut and at least one second type of connector strut, each connector strut coupled at a first end to a serpentine circumferential band and coupled at a second end to another serpentine circumferential band.  
30 39. The stent as recited in claim 38, wherein said first type of connector strut is coupled at the first end to a first distal turn of a serpentine circumferential band, and coupled at the second end to a first proximal turn of another serpentine circumferential band.  
35 40. The stent as recited in claim 38, wherein said first type of connector strut is coupled at the first end to a first distal turn of a serpentine circumferential band, and coupled at the second end to a second proximal turn of another serpentine circumferential band.  
40 41. The stent as recited in claim 38, wherein said first type of connector strut is coupled at the first end to a second distal turn of a serpentine circumferential band, and coupled at the second end to a first proximal turn of another serpentine circumferential band.  
42. The stent as recited in claim 38, wherein said first type of connector strut is coupled  
45 at the first end to a second distal turn of a serpentine circumferential band, and coupled at the second end to a second proximal turn of another serpentine circumferential band.